Vanda Pharmaceuticals to Present Safety Evaluation of Tradipitant Dosing under Differential Liver Metabolism in a 4-Organ Human-on-a-Chip® System at SOT 2026

Vanda Pharmaceuticals (Vanda) will present findings from a preclinical safety study of tradipitant at the 2026 Society of Toxicology (SOT) Annual Meeting in San Diego later this month. The study, sponsored by Vanda and performed by Hesperos, Inc., utilized a multi-organ Human-on-a-Chip® system to assess the safety of chronic dosing of tradipitant associated with different rates of liver metabolism.

Tradipitant is an oral neurokinin-1 (NK-1) receptor antagonist; it was recently approved by the U.S. FDA under the brand name NEREUS™ for the prevention of vomiting induced by motion. Tradipitant is the newest treatment for 'motion sickness' in more than 40 years.

The presentation will be delivered by Jessie Carlin, Ph.D., Director of Clinical Development on Monday, 23 March at 4:15 PM PDT in Ballroom 6C . Dr. Carlin will describe the findings of the study and the utility of Hesperos' human-relevant, multi-organ system platform.

Study Design and Results

Hesperos' Human-on-a-Chip was configured into a four (4)-organ system model composed of primary (donated) human liver and kidney cells as well as induced pluripotent cardiac and neuronal stem cell (i.e., iPSC-derived) constructs in an interconnected platform. The primary study objective was to evaluate the effects of chronic (14 days) exposure to supraphysiological dosages of tradipitant (i.e., doses that exceed typical patient levels) in primary liver constructs with different rates of metabolism (i.e., low, medium, and high) to determine if they generated different results (as may occur in patients). The study measured clinically relevant functional readouts such as cardiac beat frequency and contraction force as well as cortical neuron firing rates along with relevant organ safety biomarkers such as albumin and Kidney Injury Molecure-1 ('KIM-1') at multiple time points over 14 days.

Hesperos' 4-organ system model was able to detect tradipitant's known metabolites with limited (potential) adverse effects noted, though there were some findings in medium- and high-rate metabolizing liver constructs. Overall, the results reinforce the importance of evaluating different rates of liver metabolism and their respective impact on safety outcomes and that such work should and can be evaluated by such models in preclinical and when applicable to support clinical testing.

Presentation Details

- Title: *Safety Evaluation of Supraphysiological Tradipitant Dosing under Differential Liver Metabolism*
- Presenter: Jessie Carlin, Ph.D., Vanda Pharmaceuticals
- Monday, March 23, 2026, 4:15 PM PDT, Ballroom 6C

- Details and Abstract here

Visit Hesperos at SOT 2026 ToxExpo: Booth #846

Stop by and take the opportunity to discuss how Hesperos' single and multi-organ Human-on-a-Chip® organ system models can help your organization better elucidate and understand your product's profile.

View Booth #846 on the Interactive Floor Plan.

About Vanda Pharmaceuticals

Vanda is a leading global biopharmaceutical company focused on the development and commercialization of innovative therapies to address high unmet medical needs and improve the lives of patients. For more on Vanda Pharmaceuticals Inc., please visit www.vandapharma.com and follow us on X @vandapharma.

About NEREUS™

NEREUS™ (tradipitant) is a neurokinin-1 receptor antagonist licensed by Vanda from Eli Lilly and Company. NEREUS™ is approved for the acute prevention of vomiting induced by motion in adults and is currently in clinical development for a variety of indications, including gastroparesis and the prevention of nausea and vomiting induced by GLP-1 receptor agonists.

About Hesperos, Inc.

Hesperos is a global contract research organization (CRO) specializing in preclinical drug development services utilizing its Human-on-a-Chip® platform. By replicating key aspects of human biology (and thus avoiding expensive, time-consuming, and often less informative animal testing), Human-on-a-Chip® organ-system models provide product development teams with more meaningful insights that can accurately predict an agent's therapeutic profile while lowering costs and accelerating development timelines. For more information visit https://hesperosinc.com/.